

NCBI Sequence Viewer

EXHIBIT 5

The image shows the NCBI Nucleotide sequence viewer interface. At the top, there is a DNA sequence: 5'-GCTCAGGATG...-3'. Below the sequence, there are several tabs: PubMed, Nucleotide, Protein, Genome, Structure, PopSet, Taxonomy, OMIM, and Bio. The Nucleotide tab is selected. Below the tabs, there are search and display options. The search bar contains 'Nucleotide'. The display options are 'default', 'Save', 'Add to Clipboard', 'Preview/Index', 'History', 'Clipboard', and 'Data'. The 'default' option is selected.

☐ 1: NM_005226. Homo sapiens endo...
[gi:4885194]

Related Sequences, OMIM, Protein, PubMed, Taxonomy,
LinkOut

LOCUS NM_005226 1137 bp mRNA linear PRI 16-NOV-2000
DEFINITION Homo sapiens endothelial differentiation, sphingolipid
G-protein-coupled receptor, 3 (EDG3), mRNA.
ACCESSION NM_005226
VERSION NM_005226.1 GI:4885194
KEYWORDS
SOURCE human.
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE 1 (bases 1 to 1137)
AUTHORS Yamaguchi, F., Tokuda, M., Hatase, O. and Brenner, S.
TITLE Molecular cloning of the novel human G protein-coupled receptor
(3PCR) gene mapped on chromosome 9
JOURNAL Biochem. Biophys. Res. Commun. 227 (2), 608-614 (1996)
MEDLINE 97032811
PUBMED 8378560
REFERENCE 2 (bases 1 to 1137)
AUTHORS Ai, S., Bleu, T., Huang, W., Hallmark, O.G., Coughlin, S.R. and
Goetzl, E.J.
TITLE Identification of cDNAs encoding two G protein-coupled receptors
for lysosphingolipids
JOURNAL FEBS Lett. 417 (3), 279-282 (1997)
MEDLINE 93072391
PUBMED 9409733
REFERENCE 3 (bases 1 to 1137)
AUTHORS Ancellin, N. and Hla, T.
TITLE Differential pharmacological properties and signal transduction of
the sphingosine 1-phosphate receptors EDG-1, EDG-3, and EDG-5
JOURNAL J. Biol. Chem. 274 (27), 18997-19002 (1999)
MEDLINE 93315836
PUBMED 10383399
REFERENCE 4 (bases 1 to 1137)
AUTHORS Spiegel, S.
TITLE Sphingosine 1-phosphate: a ligand for the EDG-1 family of
G-protein-coupled receptors
JOURNAL Ann. N. Y. Acad. Sci. 905, 54-60 (2000)
MEDLINE 20278382
PUBMED 10818441
REFERENCE 5 (bases 1 to 1137)
AUTHORS Hla, T., Lee, M.J., Ancellin, N., Thangada, S., Liu, C.H., Kluk, M.,
Chae, S.S. and Wu, M.T.
TITLE Sphingosine-1-phosphate signaling via the EDG-1 family of
G-protein-coupled receptors
JOURNAL Ann. N. Y. Acad. Sci. 905, 16-24 (2000)
MEDLINE 20278379

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PUBMED 11818438
 REFERENCE 6 (bases 1 to 1137)
 AUTHORS H. mmel, H.M., Meyer Zu Heringdorf, D., Graf, E., Dobrev, D.,
 Kortner, A., Schuler, S., Jakobs, K.H. and Ravens, U.
 TITLE Evidence for Edg-3 receptor-mediated activation of I(K.ACh) by
 sphingosine-1-phosphate in human atrial cardiomyocytes
 JOURNAL Mol. Pharmacol. 58 (2), 449-454 (2000)
 MEDLINE 21368609
 PUBMED 11908314
 COMMENT REVIEWED REFSEQ: This record has been curated by NCBI staff. The
 reference sequence was derived from X83864.1.
 Summary: This gene encodes a member of the family I of the G
 protein-coupled receptors, as well as the EDG family of proteins.
 This protein has been identified as a functional receptor for
 sphingosine 1-phosphate and likely contributes to the regulation of
 angiogenesis and vascular endothelial cell function.

FEATURES Location/Qualifiers
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 /db_xref="taxon:9606"
 /chromosome="9"
 /map="9q22.1-q22.2"
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 /db_xref="MIM:601965"
 CDS 1..1137
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 differentiation gene-3; lysosphingolipid receptor 3;
 sphingosine 1-phosphate receptor EDG3; S1P receptor EDG3"
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 LFKAQWFIVLAVLNSAMNPVIYTLASKEMRRAFFRLVCNCLVRGRGARASPIQPALDP
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 misc feature 166..720
 /note="7tm_1; Region: 7 transmembrane receptor (rhodopsin
 family)"
 misc feature 697..894
 /note="7tm_1; Region: 7 transmembrane receptor (rhodopsin
 family)"

BASE COUNT 226 a 362 c 298 g 251 t

ORIGIN

Initiation 1 atg gcaactg ccctcccgcc gcgtctccag ccggtgcggg ggaacgagac cctgcgggag
 codon 61 cat accagt acgtggggaa gttggcgggc aggtgaagg aggcctccga gggcagcacg
 121 ctc accaccg tgctcttctt ggtcatctgc agcttcatcg tcttgagaaa cctgatggtt
 181 ttg attgcca tctggaaaa caataaat ttt cacaaccgca tgtacttttt cattggcaac
 241 ctg jctctct ggcacctgct ggccggcatc gcttacaagg tcaacattct gatgtctggc
 301 aagaagacgt tcagcctgtc tcccacggtc tggttcctca gggagggcag tatgttcgtg

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361 gcccttgagg cgtccacctg cagcttactg gccatcgcca tcgagcgga cttgacaatg
 421 atgaaatga ggccttacga cggcacaag aggcaccgag tcttcctcct gatcgggatg
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 721 ctgtgcgga ccgtggtgat tgtggtgagc gtgttcatcg cctgctggtc cccactcttc
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 1021 agcagcaaca atagcagcca ctgtccgaag gtcaaggaag acctgcccac cacagacccc
 1081 tcaatcctgca tcatggacaa gaacgcagca cttcagaatg ggaatcttctg caactga

Goetzl
 EDG-3
 primer 1

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Revised: October 24, 2001.

Goetzl EDG-3
 primer 2 in an
 antisense orientation

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